Questions and Further Clarifications Needed for Asbestos Use in Chlor-alkali Plants

Receipt of Asbestos and Fabrication of Diaphragm

1. What kind of container is the raw asbestos imported in? What are the procedures across the supply chain for all asbestos that enters the country for use in the Axial-Westlake chlor-alkali plant?

2. Do shipping containers ever require a customs inspection that would open the containers?

3. If a shipping container is damaged, what warning is available to the port or warehouse personnel? Does the warehouse belong to the facility or a third-party?

4. How is the raw asbestos contained within the shipping container? What type of bags are used?

5. How is material transported to the chlor-alkali facility?

Fabrication of Diaphragm

6. How are the asbestos bags transported from inside the shipping container to a storage room (what devices, processes, equipment such as forklifts, pallets, etc.)? How is an accident cleaned-up and asbestos-containing material disposed of, including containers and storage areas?

7. Once the shipping container is opened, how often is a broken bag present? Is the entire content disposed? Describe the cleanup procedure for each facility.

8. How are the asbestos storage areas ventilated (e.g. under negative pressure) and is the ventilation monitored with alarms? What other storage processes are in place?

9. How are the bags opened? Specifically, are they moved into a glove box (in all cases) before opening? Please provide the breakdown of how bags are handled (manual or mechanical) prior to putting asbestos into the mixing vessel and any tools used to cut open the bag. Please include information on any relevant engineering controls.

10. If bags are not opened in a glove box, are they opened in an area with ventilation designed for that purpose? If yes, please explain. What tools are used? Describe the work process to cut open the bags.

11. Are glove boxes pre-fitted with HEPA vacuum wands for cleaning bag surfaces? How are asbestos bags handled and stored if only partial bags are needed/used?

12. How are empty asbestos bags handled at every site?

13. Regarding the wet asbestos in and around the mixing (or deposition) tanks that is removed before it dries, how quickly does it dry? What equipment is used to clean it up? How is that

equipment managed? Is an SOP available for cleaning?

14. What asbestos control processes are used in the diaphragm drying area and baking oven/oven room? Ventilation? Cleaning SOP?

Handling of Spent Diaphragms

15. Is the hydro-blasting area contained? What measures are in place to ensure that all asbestos wastes generated during the hydro-blasting are captured?

16. Is the spent diaphragm dry or wet during hydro-blasting?

17. Do personnel perform the hydro-blasting or is that completely automated? Do personnel ever enter the hydro-blasting room? If yes, do they allow time between hydro-blasting and entering the room? How is the hydro-blasting room cleaned after use?

Breathing Zone and Environmental Monitoring

18. Please provide any additional available details for the asbestos personal monitoring information. Please include: description of job tasks/titles, number of workers monitored, ranges of values collected, time duration for each task and the 8-hr time-weighted averages for each sample. Please clarify that the information provided represents all measured values and includes all job titles of employees who may be exposed to asbestos.

19. Please provide any additional area air monitoring results for any (or all) steps in the asbestos use process no already provided that are available.

Handling of Wastes and Effluent

20. Does the facility monitor for asbestos in effluents from hydro-blasting diaphragms?

21. Is 100% of the water and wetted asbestos (effluent) captured and sealed as waste? Or does any liquid from the hydro-blasting process go down a drain?

22. If any effluent goes down a drain, where does the drain lead and (how) is it treated before leaving the site? Is the facility an indirect discharger or direct discharger? If indirect discharger, does the facility have a pretreatment program? Describe any onsite treatment methods how settled solids and/or biosolids are handled for each facility.

23. How are ventilation systems serving asbestos handling areas maintained? How is ventilated air containing asbestos handled? Describe air pollution control devices and how captured asbestos/dust/particulates are handled. For example, if filters are used – what types, how are they inspected, cleaned and serviced? Are the filters recharged or discarded/changed-out?

24. How are the spent diaphragms and/or ventilation system filters disposed?

25. What is the facility's National Pollutant Discharge Elimination System (NPDES) permit number(s), Title V air permit number(s), and Resource Conservation and Recovery Act (RCRA) identification number? What is the status of each permit (e.g., active, expired)?

26. How are asbestos containing wastes managed/stored on site until it is sent off site? What procedure is in place to ensure that asbestos waste is clearly labeled and sealed to prevent exposure and release?

27. How is portable equipment which may come in contact with asbestos, such as pumps and vacuums, labeled and maintained?

Housekeeping and Hygiene

28. Does all work at the facility involving asbestos occur in restricted areas? Or do employees without asbestos duties have access to some areas where asbestos is used in the process? If yes, please explain.

29. If dry asbestos cleanup is by HEPA vacuum, how is the vacuum cleaned and its bag/filter media handled? Where does this take place? What precautions or controls are used? Is an SOP available?

30. Please describe the process and equipment used to clean up loose (inadvertently released or spilled) asbestos using wet methods. How is water applied? Is the water amended? If water is sprayed, what pressure and volume is used?

31. Are wet filter press cakes manually dropped into bags; does a bag hold more than one filter press cake? If so, what exposure control methods are used as new cakes are dropped onto cakes already drying in the bag? What cleaning in and around the filter area is required and how is that accomplished?

32. What are the standards for cleanliness in storage, work areas, and hygiene/change rooms; how is cleanliness determined? Are there SOPs for maintaining and inspecting these areas?

33. How are employee change rooms designed to maintain integrity of clean areas and clean clothes?

34. What procedures do personnel use to decontaminate their PPE and equipment?

35. How is the asbestos removed from PPE disposed?

Training

36. Are there initial training courses and refresher training courses for working with asbestos? What specific information is included in each training course and are there requirements for the refresher training (i.e., employees cannot work unless completed)? Is training provided for procedures required in case of accidental spills or releases?